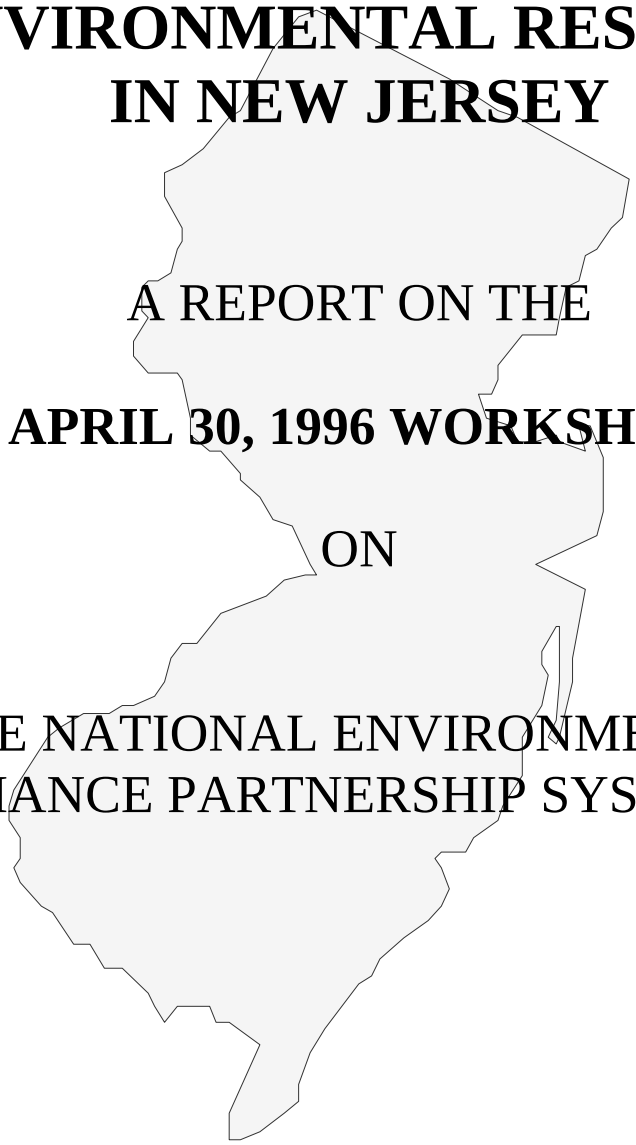
MANAGEMENT FOR ENVIRONMENTAL RESULTS IN NEW JERSEY



A REPORT ON THE

APRIL 30, 1996 WORKSHOP

ON

THE NATIONAL ENVIRONMENTAL PERFORMANCE PARTNERSHIP SYSTEM (NEPPS)

July 1996

New Jersey Department of Environmental Protection

US Environmental Protection Agency, Region 2

Report Prepared by DEP's Division of Science & Research

Introduction

The New Jersey Department of Environmental Protection (DEP) and Region 2 of the U.S. Environmental Protection Agency (EPA) have inaugurated a new partnership in environmental protection, as part of the National Environmental Performance Partnership System (NEPPS) begun by six states, including New Jersey, in 1995. NEPPS is an approach designed to allow states to more effectively direct federal and state resources toward state environmental priorities, using environmental indicators as primary measures of improvements in environmental quality. The intent is to emphasize DEP-EPA cooperation for achieving continuous gains in environmental quality, in contrast to the earlier approach of measuring progress through agency activities (e.g., number of permits issued) that have less obvious links to environmental improvement.

Because of NEPPS' emphasis on identifying environmental goals, objectives, and milestones, and using state agency self-assessments and environmental indicators to evaluate progress in meeting these targets, it is critical that public involvement be integral to NEPPS. It is public values and concerns that shape state goals, and achieving them will require cooperation of groups and organizations other than DEP and EPA. These agencies view the key issues, goals and indicators in the initial NEPPS program, as well as its future versions, as dynamic concepts that will evolve as DEP and EPA Region 2 become more experienced with the NEPPS approach and as stakeholder input becomes integrated into the system. The very short schedule for inauguration of the NEPPS process in 1995 limited public involvement in development of the pilot Performance Partnership Agreement (hereinafter Agreement) signed by DEP and EPA in March 1996, which covered DEP programs involved with drinking water, air quality, and freshwater water quality, pollution prevention, and aspects of enforcement. This made it even more important to begin public involvement before the second Agreement, which would add other EPA-funded or mandated programs (e.g., marine water quality, site remediation, solid waste, land management), is signed (by October 1996).

Thus an "initial collaborative workshop" with a diverse group of stakeholders was organized for April 30, 1996, under the title "Management for Environmental Results in New Jersey," and co-sponsored by DEP, EPA, and the Green and Gold Task Force (a DEP advisory group with business and environmentalist members). This is a report on the content of that workshop, as an element in an ongoing dialogue with New Jersey stakeholders about how to make NEPPS an integral and ever-improving part of DEP and EPA Region 2's operations.

Workshop Background

The workshop had two goals. First, it would allow DEP and EPA to inform a diverse group of stakeholders about NEPPS, both its aims and its current status in New Jersey. Second, the agencies could begin to get stakeholders' feedback on the New Jersey-specific key environmental issues, goals, objectives, milestones, and environmental indicators that were part of the first (FY96) NEPPS Agreement between DEP and EPA, or that were being formulated for programs being added for the FY97 Agreement. This entailed a division of the workshop agenda (see p.3) into two portions: a morning section devoted to describing NEPPS aims and overall status, and a three-hour afternoon section involving smaller discussions (breakout sessions) by stakeholders of program-specific NEPPS plans. The morning session is summarized below; the

bulk of the report describes comments made by stakeholders about NEPPS, both overall and for specific aspects.

The unfamiliarity of the inaugural NEPPS process in New Jersey suggested that initial audiences should be those with a strong and active interest in DEP and EPA Region 2 activities: in other words, "stakeholders" rather than the general public (outreach to the latter will occur later). The intent was to have a wide range of major perspectives on New Jersey's environmental quality and management represented at this first workshop. DEP Commissioner Robert C. Shinn, Jr. and EPA Regional Administrator Jeanne Fox issued personal invitations to over 200 people, including an executive summary of the 1996 NEPPS Agreement and the key environmental issues from the 1996 NEPPS Self-Assessment documents. Invitees came from the following types of organizations: federal, state (from New Jersey and neighboring states) and local government agencies; state legislators and local politicians; academics and educators; business, including developers; environmental organizations; environmental justice groups; labor; farmers; recreation organizations; religious groups; and foundations. Members of DEP's Green and Gold Task Force were very helpful in providing names of potentially interested stakeholders. Attendance at the workshop was 115 (plus about 60 DEP and EPA attendees), roughly representing the same range of diversity as among invitees. All attendees received a copy of the FY96 NEPPS Agreement, as well as some additional background material for breakout sessions and a survey to provide further feedback on the NEPPS process.

Workshop Agenda

MANAGEMENT FOR ENVIRONMENTAL RESULTS IN NEW JERSEY:
IMPLEMENTING THE NATIONAL ENVIRONMENTAL PERFORMANCE PARTNERSHIP SYSTEM (NEPPS)

An Initial Collaborative Workshop
Co-Sponsored by DEP, EPA Region 2 & DEP's Green & Gold Advisory Task Force
April 30, 1996
Public Hearing Room - NJ Department of Environmental Protection
401 E. State Street, Trenton, NJ

8:00 - 9:00 AM REGISTRATION

Morning Moderator: ***Michael Catania, Co-Chair, Green & Gold Advisory Task Force***
Executive Director, The Nature Conservancy

9:00 AM **WELCOME AND INTRODUCTION**
Mark Smith, Chief of Staff, DEP
Jeanne Fox, EPA Region 2 Administrator

9:30 - 11:15 AM SESSION 1 - NEPPS, ENVIRONMENTAL GOALS & INDICATORS

9:30 AM **National Environmental Performance Partnership System (NEPPS) Process**
Leslie McGeorge, Director, Division of Science & Research, DEP
Kevin Bricke, Deputy Director, Water Management Division, EPA Region 2

9:45 AM **Environmental Goals and Indicators: A. Federal, State and Regional Initiatives;**
B. Key Concepts
Jim Bernard, Project Manager, State Environmental Goals and Indicators Project

10:30 AM **Break**

10:45 AM **Implementation of NEPPS in New Jersey**
Leslie McGeorge, DEP
John Malleck, Chief, Water Quality Management Section, EPA Region 2

11:15 AM **Discussion of NEPPS Strategy and Charge to Breakout Sessions**
Mike Catania & James Shissias - Facilitators

11:45 - 2:45 PM SESSION 2 - DISCUSSION OF KEY ISSUES, GOALS & INDICATORS IN INDIVIDUAL TOPIC AREAS: BREAKOUT SESSIONS WITH FACILITATORS

Pilot 1996 Areas	**New Areas**
Water Quality (Public Hearing Room)	**Site Remediation/Waste** (5th Fl. Lg. Conf. Rm.)
Drinking Water Quality (3rd Fl. Lg. Conf. Rm.)	**Land & Natural Resources** (6th Fl. Lg. Conf. Rm.)
Air Quality/Radiation (4th Fl. Lg. Conf. Rm.)	

12:30 PM Lunch in Breakout Rooms

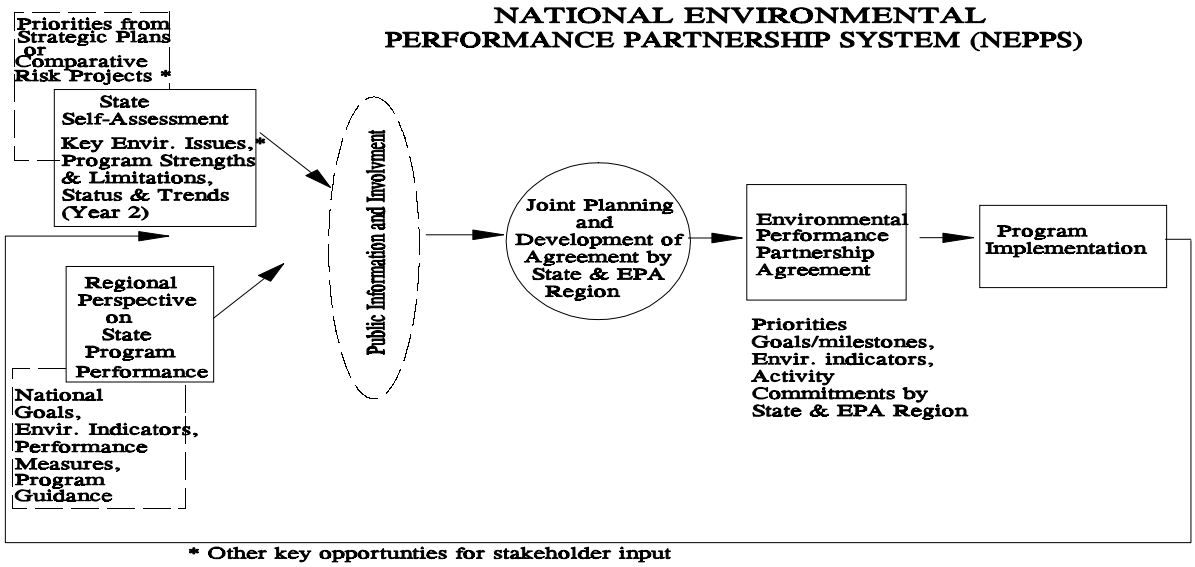
Afternoon Moderators: ***James Shissias, Green & Gold Advisory Task Force; General Manager, Environmental Affairs, PSE&G***
Mark Smith, Chief of Staff, DEP

3:00 PM **SESSION 3 - REPORTS ON BREAKOUT SESSIONS AND FUTURE OUTREACH PLANS (reconvene in the Public Hearing Room)**

4:15 PM **CLOSING REMARKS AND ADJOURNMENT**
Mark Smith, DEP

Morning Summary

As noted above, morning speakers from DEP and EPA (and the State Environmental Goals and Indicators Project) welcomed attendees, explained NEPPS' aims, and discussed how New Jersey had proceeded with NEPPS so far. These points are briefly summarized in the next pages.



How NEPPS Works

A diagram of the generic NEPPS process appears above. Where available, environmental priorities established through a "comparative risk" process (in which one input would be rankings of environmental issues according to their human health, ecological, and quality-of-life impacts; DEP has applied for EPA funding for a comparative risk project) would help shape the first major NEPPS document, the Self-Assessment. This document identifies the state's key environmental issues, and the state environmental agency's strengths and limitations in addressing these issues; after the first year, it also reports progress toward meeting goals for these key issues, as measured by environmental indicators. DEP released its "Self-Assessment of New Jersey's Environment and NJDEP Programs: Air Quality, Water Quality, Drinking Water" in August 1995.

Following EPA Region and stakeholder input on key environmental issues, and proposed goals, environmental indicators, and activity commitments, the second major NEPPS document--the Environmental Performance Partnership Agreement (Agreement)--is developed jointly by the state and the appropriate EPA Region office. This Agreement guides data acquisition, environmental quality assessment, indicator development and agency activity commitments for the Agreement period. Program implementation, particularly when EPA funding is involved, is driven by the Agreement. DEP and Region 2 released the pilot "New Jersey Environmental Performance Partnership Agreement--1996" in March 1996. The timeframe covered by this Agreement has been extended to September 30, 1996.

In New Jersey, as in several other states, Commissioner Shinn has elected to apply the Self-Assessment, environmental goal/indicator approach for environmental management to state-funded, as well as federally-funded, environmental management programs. This means the concept of management for environmental results can be implemented throughout DEP, rather

than being limited to programs or portions of programs funded by EPA.

The basic steps involved in NEPPS include: identifying key environmental issues, establishing goals, and developing environmental indicators to measure progress toward the goals. An example is the problem of "ozone pollution in air." A key issue is that New Jersey citizens are periodically exposed to unhealthful ozone levels; a goal is to achieve a safe level of ozone statewide by 2007. Examples of potential environmental indicators for causes, conditions and effects, and responses are:

CAUSES	CONDITIONS AND EFFECTS	RESPONSES
Estimate and track emissions from: **--industry** **--commercial activities** **--cars, trucks, buses** **--consumer products**	**Measure and track number of days when ozone exceeds standards** **Monitor effects on people (asthma effects, etc.) and plants (crop damage, etc.)**	**State/EPA: prepare state plan** **Region: limit regional emissions** **Industry: participate in emissions trading programs** **Citizens: use public transportation and carpools, get regular tune-ups, etc.**

The National Situation

New Jersey is one of six states--the others being Colorado, Delaware, Illinois, Utah, and (since the Workshop) Oklahoma--pioneering NEPPS during the 1996 federal fiscal year (FY96), which ends September 30, 1996. All of them, in varying ways and covering varying proportions of each state's environmental programs, have been developing Self-Assessments, goals, objectives and milestones, and indicators. In FY97, all 50 states must enter NEPPS, and will use the experience of New Jersey and the other pilot states to guide their efforts.

While NEPPS itself is new, a number of states have been working on environmental indicators and, in some cases, publishing these as part of an annual State of the Environment report or its equivalent (which sometimes includes milestones or benchmarks). These include California, Connecticut, Florida, Illinois, Kentucky, Maine, Massachusetts, Minnesota, North Carolina, Ohio, Tennessee, Vermont, Washington, and Wisconsin, as well as New Jersey. EPA supports the State Environmental Goals and Indicators Project at Florida State University, which helps these and other states to develop goals and indicators and integrate them into environmental management.

New Jersey is among the most advanced states in the scope of its indicator development, but has not yet published a State of the Environment report. It has also not yet set priorities through a "comparative risk" project (as outlined in the diagram of the NEPPS process on the previous page and as some states have done), but EPA funding for such a project in New Jersey was recently requested.

State Aims

DEP aims to use the NEPPS process to: set priorities for the use of federal funding; evaluate environmental progress;and provide information to the public. Traditionally, EPA has relied on detailed workplans from separate DEP programs to ensure that these programs merit continued federal funding; progress has been evaluated by the number of permits issued, and other activity measures, rather than on the status of the environment itself; and public

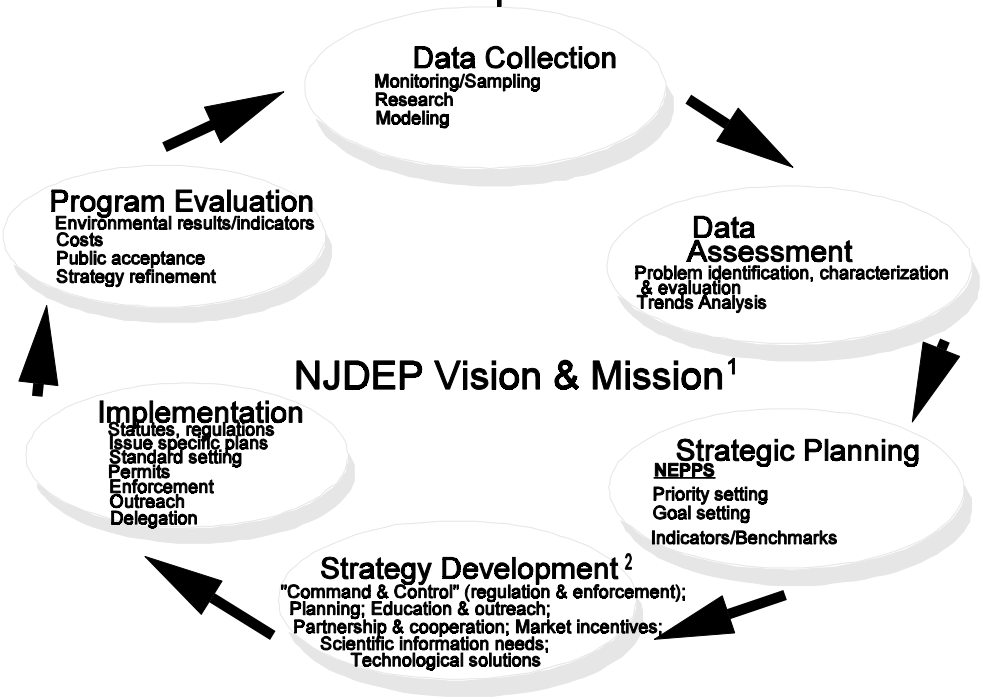
participation has been limited. As detailed in the table on the next page, DEP expects to gain more flexibility in its ability to direct policy and funding so as to maximize environmental quality, and to work as a partner with New Jersey citizens and EPA to accomplish these ends.

TRADITIONAL SYSTEM VS. NEPPS

	Old System	NEPPS
Setting Priorities	minimal	first step in process
Environmental Goals	minimal	extensive
Using Environmental Indicators to Measure Progress	minimal	extensive
Counting Actions (number of inspections, etc.) to Measure Progress	extensive	minimal
Assessing Environmental Quality Data	minimal	extensive
Federal Oversight	extensive	reduced; more state flexibility
Public Participation	minimal	extensive

DEP is undertaking several initiatives to improve how it manages environmental issues. The figure below shows one perspective on the core activities in environmental protection, highlighting the position of NEPPS as a key part of strategic planning. Although the transition will take some time, DEP expects NEPPS to provide a core around which, with the help of citizens and EPA, it can build a comprehensive and effective environmental protection process.

Core Activities in Environmental Protection Process: A Perspective



Division of Science & Research
1/96

[1] Vision: Commitment to high quality of life in NJ

Mission: Preserve,sustain, protect & enhance environmentto ensure integration of high environmental quality, public health & economic vitality.

[2] Strategy development should include analysis ofcost effectiveness; cost-benefit;risk-benefit; feasibility(technological,political,economic) equity issues and public input

EPA's Role

The Agreement between DEP and EPA Region 2 focuses limited resources on solving environmental problems across all environmental media, with EPA more as a partner than overseer and DEP gaining increased flexibility. The two agencies become jointly accountable to the public (rather than simply DEP being accountable to EPA), with progress being measured through agreed-upon indicators, particularly of environmental quality. In pursuing these efforts, EPA's preferred approach is partnership through community-based environmental protection, in which all stakeholders work with DEP and EPA to design and implement a plan to solve a given problem. It sees NEPPS as the instrument for reaching agreement on the details of this approach with the State. However, EPA Region 2 will continue to review Agreements and Self-Assessments to determine if progress is being achieved and that New Jersey meets minimum federal requirements, and to evaluate (as required by federal rules) its performance under federal grants. Evaluation will rely heavily upon the Self-Assessments, but EPA will supplement these if needed.

EPA Region 2 expects that DEP, under NEPPS, will:

- maintain efficient and effective base programs (as delegated) equivalent to federal programs
- do more to solve problems in places that have not, or cannot, be addressed with base programs alone
- continue to submit many state products (such as water quality standards) for approval to EPA, as mandated by federal laws and regulations
- continue to support national databases
- supplement national and state indicators with regional or local ones, as appropriate

For its part, EPA Region 2 will:

- be an active participant on DEP's NEPPS Steering Committee, to ensure direct communication and swift resolution of any problems
- work with DEP through its new Environmental Indicators team to ensure indicators' relevance, technical feasibility, validity and reliability, and to foster compatibility with New York State indicators in border areas
- provide training and assistance to DEP in ambient monitoring and enforcement
- work with DEP on revising state regulations (for example, to meet ozone and carbon monoxide standards)
- participate in the Passaic River Watershed Project to address harbor contamination and instream impact issues, among others, and explore how to deal with non-tidal controls

BREAKOUTS

Five breakout sessions let small groups of stakeholders comment on New Jersey's NEPPS efforts to date.

Overall Goals of Breakout Sessions

For the three topics in the pilot FY96 Agreement--air quality, water quality, and drinking water--stakeholder feedback was sought on what to add, drop or revise to the Self-Assessment's key environmental issues, and the Agreement's environmental goals [general aims, non-quantitative] and objectives/milestones [respectively, specific qualitative targets, and quantitative targets with deadlines]. Information on key issues, goals and objectives/milestones was sent to invitees before the Workshop. Feedback also was sought on the Agreement's environmental indicators [measures of environmental quality, of problem causes, or institutional responses]. In addition, it was hoped stakeholders would provide feedback on which objectives should be quantitative and have target dates (i.e., become milestones); whether to create aggregate indicators and appropriate formats for communicating indicators; and on future outreach - how DEP should consult with stakeholders; how DEP should get background information to stakeholders, and what background information is most helpful. Goals for the two new topics--site remediation and waste management, and land and natural resources--were similar, but prospective: for example, key environmental issues to include in the draft self-assessment, or goals in the FY97 Agreement.

Format of Breakout Summaries

Each breakout summary that follows covers (1) key environmental issues, and (generally) program strengths and weaknesses; (2) goals; (3) objectives/milestones; and (4) indicators. *Stakeholder comments, presented in standard typeface and text, should not be taken as consensus statements unless explicitly labeled as such. There was a diversity of opinion in the discussions, and this document aims at presenting the full range of opinion.* Comments on another topic appear under that topic, rather than under the breakout session where they were made. Generic comments (on NEPPS overall) appear in a separate section following breakout summaries. In addition to oral comments during the breakout sessions themselves, surveys were distributed so participants could provide more comments after attending the workshop and reading the material provided (including the Agreement). Survey comments are included where appropriate (not always identified as such).

Material from DEP (whether oral, from the Executive Summary of the Agreement, or the full Agreement distributed at the workshop) specific to goals, indicators, etc. precedes stakeholder comments on these topics. Key issues and program strengths/limitations come from the FY96, or draft ideas for FY97, Self Assessments. For air quality, water quality, and drinking water, goals, subgoals, and milestones/objectives appear together. Some DEP presentations have been modified from their workshop form to clarify their meaning, and some material not presented then (e.g., proposed indicators from FY96 Self-Assessments) has been added for context. What in the FY96 Self-Assessments and Agreement were labeled pressure, state, and response indicators have been renamed as "causes," "conditions and effects," and "responses" to clarify their meaning. *All DEP-presented material is in smaller type and in boxes, to distinguish it from stakeholder comments.*

A. Air Quality/Radiation

Facilitator: Jim Bernard. Resources: Joann Held, Bureau of Air Quality Evaluation, Charles Pietarinen, Bureau of Air Monitoring (DEP); William Baker and Rudy Kapichak, Air Programs Branch (EPA).

Self -Assessment:

KEY ISSUES	
DESIGNATED NONATTAINMENT AREAS Carbon Monoxide: five counties, several municipalities; NJDEP asking, based on monitoring data, that these be labeled "attainment" Ozone: entire state, most "severe" nonattainment (Warren marginal, Atlantic/Cape May moderate); Clean Air Act of 1990 mandates control strategies depending on status Particulates: entire state meets EPA's inhalable particulate (PM10) standard, but several municipalities do not meet older Total Suspended Particulate standard; NJDEP asking that these designations be removed Sulfur Dioxide: part of Warren County	
TOXIC AIR CONTAMINANTS Lists of hundreds of compounds with generally known health effects have been developed for regulatory purposes	
STRENGTHS	CONSTRAINTS AND WEAKNESSES
--Baseline program for maintaining air quality --State Implementation Plan for ozone (Ozone Transport Commission agreements; promoting cleaner fuels; diesel emission testing) --Air toxics (mercury; Toxic Catastrophe Prevention Act program; inspections of high risk point sources) --Pollution prevention --Air monitoring network --Emission trading pilot program --Compliance assistance (alternative dispute resolution; air permit amnesty program; voluntary environmental audits or compliance evaluations; grace periods) --Air operating permit program	--Motor vehicle emissions (low-emission-vehicle production, gasoline type regulation) --Out-of-state emissions of ozone precursors --Possible EPA changes in ambient standards for ozone, particulate (PM-10), and sulfur dioxide) --Gaps in ambient air monitoring program --Environmental indicators for evaluating effectiveness of air quality enforcement --Mobile source emissions and personal behavior --Emissions database (Air Pollution Enforcement Database System; Toxic Release Inventory and Right-to-Know data; emissions statements) --Information integration --Expansion of public education efforts --Fiscal accounting of program activities

Few comments were received on the Self-Assessment as presented at the breakout (the redesignation of towns under the older particulate standard--raised under "Non-Attainment," above--occurred since the Self-Assessment). Suggestions were to add advocacy of good science to the self-assessment and quantifying of sources. The group discussed how the regional context (for example, transboundary pollution) will be taken into account in State pollution control plans, and a strategy for filling gaps in measurement and knowledge. A survey suggested not adding issues until the current approach had been tested.

Goals/Subgoals

Goal:	Ensure a high quality of life for the residents of New Jersey by preserving, sustaining, protecting and enhancing the air environment. Air quality across the state should be healthful for all of its citizens and of sufficient purity not to degrade the quality of life or cause undue economic loss.
Subgoals:	
#1	Bring the entire state into attainment for all criteria pollutants by 2007 and maintain air quality in areas already meeting health standards.
	Objectives/Milestones
	* Attain the air quality standards for ozone
	* Attain and maintain the carbon monoxide standards
	* Maintain current attainment status for particulate matter
	* Maintain current attainment status for lead
	* Maintain current attainment status for nitrogen dioxide
	* Attain the sulfur dioxide standard statewide
	* Alert public to unhealthful air quality conditions
#2	Minimize exposure to toxic air contaminants
	Objectives/Milestones
	* Reduce Hazardous Air Pollutants (HAPS) emitted by major sources by implementing the national Air Toxics program
	* Reduce toxics emissions from motor vehicles
	* Identify and correct mercury problems related to air emissions
	* Identify hotspots of exposure to air toxics and reduce emissions which lead to those exposures
#3	Minimize the adverse effects of air pollution on the quality of life in New Jersey
	Objectives/Milestones
	* Protect visibility in a) the Brigantine National Wildlife Refuge Class 1 Area, and b) selected urban areas
	* Reduce nuisance complaints (primarily odors and soiling)
#4	Reduce levels of acid deposition
	Objectives/Milestones
	* Reduce regional acid deposition by implementing the federal acid rain program

Goals should be achievable, understandable and time independent, reflect performance, couple cause and effect, and have all their impacts known. There was disagreement on whether goals or indicators come first: it is hard to define good goals without evaluation of (good) indicators.

Some subgoals are to "minimize" exposure or adverse effects, but objectives for those subgoals say "reduce": subgoals should be modified accordingly; one person felt that "minimize" was not measurable, and that "acceptable levels" of risk needed better quantification. One suggestion was that reducing exposure to protect public health should be a subgoal; another suggested that a subgoal might be to "understand" an issue (i.e., before responses were formulated). DEP should be proactive on energy, pollution prevention, etc.; deal with transboundary issues; (in a survey) strongly urge maintenance and strict enforcement of the 55 MPH speed limit to reduce fuel use and pollution; and acknowledge pollution (e.g.. transport, biogenics) which it cannot control. A survey noted that indoor air quality was not mentioned at all (DEP plans to add indoor radon and pesticides in the FY97 NEPPS Agreement). Questions were raised about whether: the goals reflect national, regional, or state policies (DEP used EPA-developed national goals as a starting point for its own goals); ambient standards were correct; and if and how carbon dioxide was handled.

Objectives/Milestones

These should be measurable; one survey suggested minimum two-year intervals for milestones, and another felt timetables could be more aggressive. One milestone suggested was adoption of volatile organic chemicals (VOC) reduction requirements of Clean Air Act (Sections 182b1 and 182c2), as in 9% reduction 1996-1999. Emerging health-based environmental issues should be acknowledged and addressed.

Indicators

Subgoal #1: Bring the entire state into attainment for all criteria air pollutants by 2007 and maintain air quality in areas already meeting health standards.

Objective/Milestone	Causes	Conditions and Effects	Responses
Attain the air quality standards for ozone	**1. BASE YEAR EMISSION INVENTORY FOR VOLATILE ORGANIC CHEMICALS (VOC) AND NITROGEN OXIDES (NOx)** **2. PROJECTED EMISSIONS FOR VOC AND NOx AFTER STATE IMPLEMENTATION PLAN (SIP) IMPLEMENTATION** 3. Ambient precursor levels **4. VEHICLE MILES TRAVELED** 5. Average precursor emission per vehicle [F] 6. Stack test data for precursors	1. Ambient ozone levels at 16 sites[1] **# OF EXCEEDANCES** # of people exposed and duration 2. Emergency room admissions for asthma attacks [F] 3. Crop and ecosystem injury [N]	**1. PROGRESS ON COMPLETION OF ATTAINMENT PLAN (SIP)** 2. Consistency between SIP and transportation plans and projects 3. Number of required rules promulgated 4. Innovative programs (e.g. emissions trading) initiated 5. Status of emission statement program 6. Progress in participating in regional solutions (Ozone Transport Commission, Ozone Transport Assessment Group) 7. Permits issued limiting precursor emissions 8. % of pollution sources complying with ozone control regulations [N] 9. Continue implementing Photochemical Assessment Monitoring Station (PAMS) network and routine ozone monitoring
Attain and maintain the carbon monoxide (CO) standards	1. Mobile source emissions inventory 2. Average CO emission per vehicle 3. Traffic congestion [N] **4. VEHICLE MILES TRAVELED** 5. % of vehicles passing inspection	1. Ambient CO levels at 16 sites **# OF EXCEEDANCES** # of people exposed and duration	1. Status of motor vehicle control program including # of Low Emission Vehicles and Zero Emission Vehicles in fleet **2. STATUS OF ENHANCED I/M PROGRAM** **3.STATUS OF MECHANICS TRAINING FOR I/M** 4. Status of redesignation request 5. Results of special LIDAR study for measuring CO [F] 6. Limit CO emissions through permitting 7. % of sources complying with CO regulations [N] 8. Continue CO monitoring program
Maintain current attainment status for particulate matter	1. Total Suspended Particulates (TSP) and PM_{10} (particulate matter lees than 10 microns diameter) allowable emissions reported in Air Pollution Enforcement Data System (APEDS) 2. TSP and PM_{10} actual emissions reported in Emissions Statements 3. Fine particulate emission inventory [N] 4. Modeling results [Lim] 5.Average particulate emissions by vehicle type	1.TSP concentrations at 13 sites 2. PM-10 concentrations at 24 sites **# OF EXCEEDANCES** # of people exposed and duration 3. Fine particle (PM-2.5) concentrations [N] 4. Composition of particles [Lim]	1. Limit particulate emissions through permitting 2. TSP nonattainment designations removed 3. Participate in development of National Ambient Air Quality Standard for fine particles 4. % of pollution sources complying with particulate matter regulations [N] 5. Average ug PM/m^3 in stack [N] 6. Continue particulate monitoring program
Maintain current attainment status for lead (Pb)	1. allowable emissions of lead reported in APEDS 2. Pb actual emissions reported in Emissions Statements 3. Modeling results [Lim]	1. Lead data at 10 sites **# OF EXCEEDANCES** # of people exposed and duration 2. Accumulation of lead in the environment [N] 3. Blood lead levels [N]	1. # of sources with potential to cause exceedances identified in permit process/# of sources evaluated [Lim] 2. % of pollutant sources complying with lead regulations [N] 3. Continue lead monitoring program
Maintain current attainment status for nitrogen dioxide (NO2)	1. NOx allowable emissions reported in APEDS 2. NOx actual emissions reported in Emissions Statements 3. Modeling results [Lim]	1. Nitrogen dioxide data at 10 sites[1] **# OF EXCEEDANCES[1]** # of people exposed and duration[1]	1. Limit NOx emissions through permitting 2. NOx Reasonably Achievable Control Technology plans reviewed 3. % of sources in compliance with NOx regulations [N] 4. Average lb Nox per million BTUs [N] 5.Continue NOx monitoring program
Attain sulfur dioxide (SO2) standard statewide	1. SO2 allowable emissions reported in APEDS 2. SO2 actual emissions reported in Emissions Statements 3. Modeling results [Lim]	1. SO2 data at 16 sites **# OF EXCEEDANCES** # of people exposed and duration 2. SO2 data collected by Penn. Power and Light	1. Comments on the Martins Creek power plant model compliance protocol and model compliance study 2. Limit SO2 emissions through permitting 3. % of sources complying with SO2 regulations [N] 4. Continue SO2 monitoring program

Indicators in bold capitals will be reported to EPA in FY96; others are possible future indicators. Unless otherwise labeled (N=data not available; Lim=limited data available; F=feasibility will be explored), data are available with which to report these indicators.

Objective/Milestone	Causes	Conditions and Effects	Responses
Alert public to unhealthful air quality conditions	1. Pollutant emissions (see above) 2. Weather conditions 3. Acute releases	**1. AIR POLLUTION LEVELS CONVERTED TO POLLUTANT STANDARDS INDEX (PSI)** 2. Health advisories 3 Regional air quality reports distributed by media [N]	1. Timeliness of health advisories [N] 2. Develop a report for television use [F]

Subgoal #2: Minimize exposure to toxic air contaminants

Reduce Hazardous Air Pollutants (HAPS) emitted by major sources by implementing the national Air Toxics program (Title III of the Clean Air Act Amendments)	1. Actual emissions from the toxic release inventory (TRI) and from the Release and Pollution Prevention Report (RPPR) 2. Allowable emissions data from APEDS	1. Ambient air concentrations for some HAPS at one Toxic Air Monitoring Site	**1. NUMBER OF MAXIMUM ACHIEVEABLE CONTROL TECHNOLOGY (MACT) STANDARDS DELEGATED** **2. NUMBER OF MACT WORKSHOPS FOR AFFECTED PARTIES & DEP STAFF** 3. % of sources complying with MACT standards [N]
Reduce toxics emissions from motor vehicles	1. Mobile source inventory speciated for air toxics [N]	**1. AMBIENT AIR CONCENTRATIONS OF BENZENE, ETC, AT 2 PAMS SITES** 2. Ambient air concentrations of other air toxics from mobile sources [N]	1. Implement heavy duty diesel Inspection/Maintenance program 2. Number of Heavy Duty Vehicles inspected 3. Evaluate air toxics benefit of federal mobile source program for motor fuel [Lim]
Identify and correct mercury problems related to air emissions	1.Mercury emission inventory for stationary sources (1990)	1. Mercury levels in ambient air [Lim] 2. Wet and dry deposition of mercury	1. # of air sources with potential to contribute to fish contamination/ # of sources evaluated [Lim] 2. Mercury emission reduction resulting from implementation of the Control and Prohibition of Mercury Emissions rule
Identify hot spots of exposure to air toxics and reduce emissions which lead to those exposures	1. Emissions data from APEDS 2. TRI and RPPR data 3. Data from Emissions Statements [F] 4. Operating Permits [F[5. Mobile source emissions [N]	**1.METALS CONCENTRATION DATA AT 9 SITES** **2. BENZO(a)PYRENE CONCENTRATION DATA AT 6 SITES** 3. Mercury deposition data [Lim] 4. Ambient air concentrations of benzene, etc. at 2 PAMS sites 5. Mercury levels in fish [Lim] 6. Ambient air concentrations for HAPS [N] 7. Environmental sampling around municipal waste combustors [Lim] 8. Metals deposited in water bodies [N] 9. Data collected by entities outside DEP [N]	1.Pilot Geographic Information System mapping project combining TRI and toxicity data with air monitoring data [F]

Subgoal #3: Minimize the adverse affects of air pollution on the quality of life in New Jersey

Oobjective/Milestone	Causes	Conditions and Effects	Responses
Protect visibility in a) Brigantine National Wildlife Refuge (Class 1 Area) b) selected urban areas	1. Allowable emissions reported in APEDS 2. Actual emissions reported in Emissions Statements 3. Modeling results [Lim] 4. Emissions data from other states [Lim]	1. Visibility monitoring (Visual Range) [Lim] 2. Observational data [Lim]	1. Prevention of Significant Deterioration permit applications reviewed and coordinated with federal land manager 2. Regional haze plan developed [N]
Reduce nuisance complaints (primarily odors and soiling)	1. Complaints received 2. Inventory of odorous and corrosive substances [N]	1. Soiling index [N]	1. Number of complaints received/resolved

Subgoal #4: Reduce levels of acid deposition

Reduce regional acid deposition by implementing the federal acid rain program	1. Actual NJ emissions of SO2 and NOx as reported by Continuous Emissions Monitoring System (CEMS) 2. Aerometric Information Retrieval System inventory data from upwind states [F]	1. **ACIDIC LOADING AND IONIC BURDEN IN DEPOSITION DATA COLLECTED AT 3 SITES**	1. Phase II permits issued 2. Review CEMs plans submitted by Phase II utilities 3. Observe CEMs performance for Phase II utilities 4. Review certification applications for Phase I and Phase II utilities 5. CEMs audits [F]

Given practical limits to accuracy, precision and timeliness of indicators, less than perfect measures are needed. Flexibility was important to stakeholders: they advised that DEP's internal use of indicators be flexible, allowing indicators to evolve in response to changing problems without eliminating any, although there was some question as to whether conflicting indicators should be included. A question was raised about whether some indicators were causally related. Additional indicators that reflect the magnitude of the problem, relate to what can be done, and measure agency performance were encouraged. DEP was urged to distinguish indicators of factors that it (or others) can and cannot control; design indicators for several audiences; and limit the number of indicators to priority items. A survey response noted a need to develop better indicators based on scientific research on interacting factors in elevated pollution levels, understand what data are needed to develop and evaluate indicators, and collect data on an ambitious scale.

Human health or biological effects indicators were agreed to be superior to those on emissions or performance; some felt health should be the only indicator. One health indicator proposed (already included in DEP's list) was the number of people (or people/hours) exposed above the ambient air quality standards or exposed to air toxics, and where; another was hospital admissions (related to pollution levels) for asthma/respiratory distress/cardiac problems. Other people said asthma admissions and other health indicators may not truly measure DEP success, and may have other causes than air pollution, requiring scientific data on the proportion caused by poor air quality. A suggested summary indicator was number of person-days with one or more exceedences of a national ambient air quality standard. A survey suggestion was that just about any living thing (either directly, as in tree dieback from acid or plant damage from ozone, or indirectly, as in mercury accumulation in bird tissue) could be an indicator of air quality that would be easily understandable to the public. One proposal was to do away with the Pollutant Standards Index, as being useless to both officials and the public. Another survey suggested that "indicators of [DEP] success" should include ones not affected by actions outside the state.

As for cause indicators, a survey argued that vehicle miles traveled (VMT) is not a good indicator of air quality (ignores improved vehicle technology and less-polluting fuel), does not allow a common approach for all emissions sources, results largely from land use, economic and population changes outside state control, and some efforts to reduce VMT could harm the economy. Emissions per vehicle-mile seemed to take many of these factors into account. Other surveys urged inclusion of transboundary sources and measures of airborne contaminants from other states, and noted that the particulate indicators focused on stack emissions to the exclusion of other particulate sources (such as diesel vehicles).

The response indicator of conformity between the State Implementation Plan (for ozone reduction) and transportation plans was criticized in one survey as simply being a slightly more flexible way for EPA to count DEP's beans, and thus antithetical to the NEPPS spirit. Less attention to indicators devoted "to DEP stewardship to EPA" was urged. Reducing the time

required to issue permits would be a better focus than the number of permits issued.

B. Water Quality

Facilitators: Martin Bierbaum (DEP), Marcus Kantz (EPA). Resources: Karen Schaffer, Division of Science and Research (DEP); John Malleck, Surface Water Quality Management Branch, Kevin Bricke, Water Management Division (EPA).

	FRESHWATER WATERSHEDS (FY96)	GROUND WATER (FY96)	ESTUARINE (FY97)
Key Issues	--Standards exceeded in some streams: fecal coliform, suspended solids, phosphorus, pH, mercury (?) --Accelerated eutrophication of lakes --Fish consumption advisories: organics & mercury; contaminated sediments --Aquatic life use impairments --Habitat alteration (wetlands losses)	--Exceedences of standards: nitrate, mercury, volatile organic compounds (VOCs), contaminated sites --Ground-water depletion --Salt water intrusion	**[by National Estuary Program; under review for NEPPS]** --fecal coliform & toxic contamination in water, sediments and biota --fish & shellfish population declines --coastal birds' impaired reproduction (NY/NJ Harbor Estuary Program) --fish & shellfish consumption advisories --ocean disposal sites for dredge materials (NY/NJ HEP) --beach closings/swimmable use impairment --surface & ground-water supply (Delaware Estuary Program) --habitat alterations/current development
Program Strengths	--reduced point source loadings --improved compliance under Clean Water Enforcement Act --reduced habitat alteration/ wetlands loss --water quality improvements in some streams	--ground-water quality standards --monitoring data available --comprehensive regulation of discharges to ground water --remediation of contaminated sites --ground-water supply planning	[not yet specified]
Program Limitations	--obstacles to full implementation of standards --progress toward watershed management --implementation of water-quality-based effluent limitations for toxics --data gaps	--need comprehensive assessment of ground-water quality --remediation challenges --unidentified pollution sources --need enhanced public education	[not yet specified]
Programs Included	--watershed management planning --nonpoint source management --water quality management (standards; permitting: industrial/ municipal surface water, industrial stormwater, UIC; enforcement; monitoring and assessment) --SRF and construction grants --clean lakes --[Self Assessment added:] freshwater wetlands, industrial pretreatment, combined sewer overflow	--ground water quality standards --ground water supply --ground water discharge permitting --ground water enforcement --ground water aspects of Site Remediation Program --monitoring --research	National Estuary Program

Self-Assessment

Discussion of the Self-Assessment stressed process, since stakeholders had only seen the Executive Summary. Water consumption, given declining supply, was urged as an additional item to consider. Non-point source pollution was also noted as a problem of equal magnitude with permitted point source discharges. Pollution prevention will be included in the FY97 Self Assessment. DEP's monitoring program network was a concern: despite extensive testing of many constituents at current sites, these data can be extrapolated to only 8.1% of stream miles. The sampling design precludes wider generalization, thus limiting development of water quality indicators.

GOAL: waters	Our water will support human health and uses, such as swimming, fishing, drinking water supply, agriculture and industry. Our will also support ecosystem health by sustaining healthy communities of plants, fish, insects and other animals that depend on the water. We will conserve existing wetlands and protect threatened and endangered species. It is the goal of the state to restore, maintain and enhance the chemical, physical and biological integrity of its waters, to protect the public health, to safeguard the aquatic biota, protect scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial, agricultural and other reasonable uses of the state's waters.
SUBGOALS:	
#1	Protect and enhance aquatic life designated uses.
	Milestones/Objectives
	* By 2005, 75% of assessed river miles will support healthy, sustainable biological communities
#2	Protect recreational designated uses in freshwater watersheds.
	Milestones/Objectives
	* Maintain and improve the number of swimmable stream miles in NJ rivers
	* Maintain and improve the current number of lakes suitable for bathing in NJ
	* Maintain and improve the aesthetic value of lakes in NJ
#3	Protect fish consumption designated use.
	Milestones/Objectives
	* NJ will continue to evaluate fish tissue for contamination, issue advisories and provide public education

Goals/Subgoals

Several participants raised concerns about the generality of the water goals (a survey response said these goals could have appeared many years ago), or suggested that a focus on milestones would be more productive. A suggestion on the subgoal to protect fish consumption was to add an effort to move fish off advisories, rather than focus solely on education. A comment on the subgoal for aquatic life was that sewage treatment plants may discharge effluent that meets permit limits, but nothing can live in the stream due to poor water quality. Additional goals requested in one survey dealt with infiltration and stormwater management: helping municipalities (perhaps with Office of State Planning help) develop ordinances to increase infiltration into groundwater in new developments, and help them de-pave, especially in and upstream of water supply collection areas and flood-prone areas. A broad discussion of "community-based environmental management" (the community decides priorities and tradeoffs) and watershed management occurred. Despite some concern that the latter concept did not include all environmental issues, it seemed to establish a workable initial context.

Objectives/Milestones

Most (see box at top of page) are "objectives" (qualitative); stakeholders wanted more milestones (quantitative), which DEP said it expected to produce after further analysis of existing baseline data. DEP responded to questions that the Agreement does discuss activities needed to

achieve these milestones and objectives, and that public suggestions on activities would be in the FY97 NEPPS Agreement. (Joint DEP-citizen monitoring was cited as appropriate for generating both greater public understanding and movement toward objectives.) DEP acknowledged that causes were identified in general (i.e., at the state level); stakeholders' concerns that causes of poor water quality in particular stream reaches would require allocation of more resources to this important type of assessment. A stakeholder asked how success can be attributed to a given policy if several regulations had been promulgated, and whether this would be addressed in Self-Assessments. Finally, one suggestion was to put pollution prevention in each milestone where appropriate, not in its own section.

DEP clarified that the milestone of 75% of river miles supporting aquatic life uses by 2005 was a 10% increase over current status, as defined from an analysis of three out of New Jersey's five major river basins. DEP should explore potential conflicts among subgoals and milestones; an example may be conflict between natural resources use by waterfowl and the swimmable subgoal on fecal coliform. NEPPS should include consultation with all parties to ensure agreement on objectives and milestones, and assumptions behind rule implementation. Other comments were that water quality for different parts of streams must be assessed differently, since they have different circumstances, and ground water and surface water cannot be viewed independently.

Indicators

Subgoal: Protect and enhance aquatic life designated uses.

Objective/Milestones	Causes	Conditions and Effects	Responses
M1. By 2005, 75% of assessed river miles will support healthy, sustainable biological communities.	**1. STATUS AND TRENDS OF MUNICIPAL POINT SOURCE LOADS OF BIOLOGICAL OXYGEN DEMAND (BOD)/CARBONACEOUS BOD** Coverage: Statewide 2. Evaluate nonpoint source loads of conventional parameters (Lim) **3. STATUS AND TRENDS OF INDUSTRIAL & MUNICIPAL POINT SOURCE LEVELS OF ACUTE WHOLE EFFLUENT TOXICITY (WET)** indirect indicator of toxics loads **4. STATUS OF IN-STREAM WATER TEMPERATURE** (Lim) Coverage: Freshwater streams **5. STATUS OF LAND USES (E.G. URBAN, SUBURBAN, RURAL, AGRICULTURAL, PRESERVED)** (incorporation of population assessment into this indicator will be explored) Coverage: Statewide	**1. STATUS OF ASSESSED STREAM MILES ATTAINING AQUATIC LIFE DESIGNATED USES** (Lim) Coverage: Freshwater streams **2. STATUS AND TRENDS OF CONVENTIONAL IN-STREAM WATER QUALITY PARAMETERS IN ASSESSED STREAMS.** (Lim) Coverage: Freshwater streams 3. Status of in-stream concentrations of toxic parameters. (Lim) **4. STATUS OF SEDIMENT CONCENTRATIONS OF SELECTED PARAMETERS IN ASSESSED SEDIMENTS.** (Lim) Coverage: Freshwater streams **Explore with Fish, Game & Wildlife developing 1 or more (below) reportable:** 5. Endangered species act status of aquatic and wetland species (crustaceans, bivalves, mollusks) (Lim) 6. Status and trends of fish populations and reproductive status (Lim) 7. Number and causes of fish kills (Lim)	**1. NUMBER OF WATERSHED MANAGEMENT PROJECTS AND % OF STATE LAND AREA COVERED BY THESE PROJECTS, BY PROJECT TYPE** Coverage: Statewide **2. STATUS AND TRENDS OF INDUSTRIAL AND MUNICIPAL FACILITIES IN SIGNIFICANT NON-COMPLIANCE.** Coverage: Statewide **3. INFRASTRUCTURE INVESTMENT TO IMPROVE WATER QUALITY** Coverage: Statewide **4. IMPLEMENTATION OF INDUSTRIAL STORMWATER PERMITTING PROGRAM AND DEVELOPMENT OF METHOD FOR EVALUATION OF PROGRAM EFFECTIVENESS** (Lim) Coverage: Statewide 5. Evaluate use of Best Management Practices statewide across levels of government and coordinate for consistency. (Lim) **6. % OF TOTAL WATERS & NUMBER OF STREAM MILES ASSESSED USING BIOLOGICAL INTEGRITY ASSESSMENTS OVER TIME** Coverage: Freshwater streams **7. CONDUCT RESEARCH TO DEVELOP AN INDICATOR OF THE PHYSICAL AND BIOLOGICAL IMPACTS OF NONPOINT SOURCES.** (Lim) Coverage: Freshwater streams

Subgoal: Protect recreational designated uses in freshwater watersheds.

Milestones/ Objectives	Pressure Indicators (Loadings and other stressors)	State Indicators (Ambient conditions)	Response Indicators/ Activities
1. Maintain and improve the number of swimmable stream miles 2. Maintain and improve the current number of lakes suitable for bathing 3. Maintain and improve the aesthetic value of lakes	1. Nonpoint source contributions of fecal coliform, nutrients, and suspended solids to streams and lakes. (Lim) **2. POINT SOURCE CONTRIBUTIONS OF FECAL COLIFORM, NUTRIENTS AND SUSPENDED SOLIDS TO SURFACE WATERS.** Coverage: Statewide **3. STATUS OF LAND USES (E.G. URBAN, SUBURBAN, RURAL, AGRICULTURAL, PRESERVED)** Coverage: Statewide	**1. STATUS AND TRENDS OF NUMBER AND % OF ASSESSED STREAM MILES MEETING SWIMMABLE DESIGNATED USE.** (Lim) Coverage: Freshwater streams **2. STATUS OF INCIDENCE OF DISEASE OUTBREAKS ASSOCIATED WITH RECREATIONAL USES OF WATER.** Coverage: Freshwater streams, public lakes **3. STATUS OF USE IMPAIRMENT OF PUBLICLY FUNDED LAKES PROJECTS** (Lim) Coverage: Public lake	1. Evaluate availability, adoption rate and implementation of Best Management Practices (BMPs) for new and existing land-use activities at various levels of government. (Lim) 2. Explore development of an indicator of effectiveness of agricultural BMPs. (N?) **3. STATUS AND TRENDS OF MUNICIPAL FACILITIES WITH SERIOUS VIOLATIONS AND IN SIGNIFICANT NON-COMPLIANCE FOR FECAL COLIFORM** Coverage: Statewide 4. Evaluate development of an indicator of recreational designated use attainment for lake beaches. (Lim) 5. Evaluation of alternate pathogen indicators **6. STATUS AND TRENDS OF NUMBER AND % OF TOTAL WATERS ASSESSED FOR RECREATIONAL DESIGNATED USE ATTAINMENT.** Coverage: Freshwater streams

Objectives/ Milestones	Causes	Conditions and Effects	Responses

1. Continue to evaluate fish tissue for contamination, issue advisories and provide public education.	**1. STATUS OF SEDIMENT CONCENTRATIONS OF BIOACCUMULATIVE TOXINS FOUND IN FISH TISSUE AT MONITORING LOCATIONS** (Lim) Coverage: Freshwater streams	**1. FISH TISSUE CONCENTRATIONS OF BIOACCUMULATIVE CHEMICALS THAT ARE TOXIC TO HUMANS FOR MONITORED SPECIES.** (Lim) Coverage: Freshwater streams 2. % of river miles & lake acres with advisories by contaminant (Lim)	**1. ISSUANCE OF FISH CONSUMPTION ADVISORIES AS NEEDED.** Coverage: Freshwater streams **2. CONDUCT PUBLIC EDUCATION ON CONSUMPTION ADVISORIES.** Coverage: Statewide 3. Investigate sources and causes of fish tissue contamination. (Lim) **4. REPORT ON PRIORITY SETTING AND DATA DEVELOPMENT NEEDS FOR FISH CONSUMPTION DESIGNATED USE INCLUDING STATUS OF EXISTING CONDITIONS** Coverage: Statewide

NOTE: Designated uses for drinking water supplies are covered in the Drinking Water section.
Indicators in bold capitals will be reported to EPA in FY96; others are possible future indicators. Unless otherwise labeled (N=data not available; Lim=limited data available; F=feasibility will be explored), data are available with which to report these indicators.

DEP clarified that indicators were chosen for various reasons (e.g., information was available, they related to the goal, etc), existing data may not be in the needed format yet, and the table (above) includes several indicators that could be used in the future. DEP was urged to reflect state-wide indicators on a watershed basis, using geographic information systems, and to tie cause indicators back to the problem source. DEP was asked why it didn't use the Chesapeake Bay model of indicators; DEP noted that the two approaches are essentially the same, but its version uses fewer categories. A stakeholder commented that the "Sneaker Index" used by Chesapeake Bay--how far can you wade in until you can't see your sneakers?--does not apply to New Jersey, and DEP should pick something people understand, like trout. DEP needs to concentrate on determining what the problem is and where it is, since it may vary from area to area. A survey commented that the indicator system simply repackages EPA performance measures, indicators were too many (DEP plans to limit the number of indicators used for its State of the Environment report, intended for the general public), and indicators needed to be linked both to causes and to responses in each watershed (DEP plans to do this). A survey suggested that opportunities must be identified for partnerships with the regulated community to solve problems.

For aquatic life uses, one person pointed out that there were 19 indicators for just one milestone, making it hard to understand, and suggested reducing this to three indicators and developing cause and response plans. DEP will use the cause indicator of biological oxygen demand or carbonaceous biological oxygen demand (BOD/CBOD) loading to start measuring progress towards the 75% milestone for river miles; although some stakeholders felt it was not as direct a link as dissolved oxygen, point source loads of BOD/CBOD affect ambient DO levels. DEP clarified it would report a "conditions" indicator for aquatic life designated uses using benthic macroinvertebrate data, and that trends would be made available as soon as DEP had more than one year's worth of data. The amount of pollution eliminated was suggested as a better response indicator than infrastructure investment to improve water quality; DEP agreed. Open space (Green Acres purchases, etc.) was proposed as infrastructure investment that deserves inclusion. In reply to a comment that stream scour and tree removal have environmental impacts, DEP noted that the cause indicator of land use starts to get at environmental changes due to population impacts, and more information is expected in FY97 documents. A survey recommended that sludge quality indicators, based on the kind of numbers appearing in a Winter 1995 NJ Discharger, would be valuable.

C. Drinking Water

Facilitator: John Bourbon (EPA). Resources: Doug McKenna, Drinking Water/Ground Water Protection Branch (EPA); Sandy Krietzman, Bureau of Safe Drinking Water; Judy Louis,

Division of Science and Research (DEP).

Self Assessment:

Key Issues
--maintenance of base program for drinking water quality
--protection of source waters for drinking
--maintenance of adequate water supplies
--identification of important NJ contaminants: microbial contamination, lead, mercury, nitrates, volatile organic compounds (VOCs), disinfection byproducts
Program Successes
--promulgating NJ maximum contaminant limits (MCLs) for VOCs, and revising and developing MCLs for 10 contaminants
--adequate water supply
--improved data management
--vulnerability ranking for all community water system (CWS) and nontransient, noncommunity water system (NTNCWS) wells
--maintaining research program on drinking water quality
--continuing water supply loan program
Program Weaknesses
--inflexible EPA regulations
--data management
--working relationship with county and local health agencies
--nonregulatory programs that deal with nonpoint source problems, groundwater management, and groundwater protection
--lack of coordinated program to collect and evaluate information on water quality problems in private wells
--uses of water that do not return it to its water basin of origin
--incomplete understanding of relation between potable water withdrawals and wastewater discharges

As with most state environmental agencies, DEP knows far more about drinking water quality for public water systems than for private wells. Comparative risk analysis would identify the critical environmental contaminants in New Jersey and whether public or private sources (or drinking water) are their most important exposure route. Water supply and source water protection are vital; one survey response emphasized that ground and surface sources should be protected from pollution for public health and drinking water quality purposes. The respondent felt that aquatic organisms seemed a higher priority than drinking water in setting certain wastewater effluent limits for waters near potable water intakes. A discussion occurred about how the common variability in test results makes the average of several samples, rather than just one, more representative of the water quality in public water systems.

GOAL: Every person in New Jersey will have safe drinking water.
Milestones/Objectives [for public water systems]
* By 2005, 95% of systems will provide water meeting microbiological drinking water standards
* By 2005, 95% of systems will provide water meeting New Jersey chemical drinking water standards
* By 2000, 90% of public water systems will have acceptable compliance evaluations

SUBGOALS:

#1 All source water in New Jersey used for drinking water will be protected from pollution.
Milestones/Objectives
* By 2005, 50% of all public water systems will have a fully implemented source water protection plan

#2 Every person in New Jersey should drink water that is free of disease-causing organisms.
Milestones/Objectives
* No detectable waterborne disease from the consumption of drinking water

#3 Every person in New Jersey should drink water with lead concentrations less than 15 ppb.
Milestones/Objectives
* 1992-2000: reduce the number of samples that exceed the lead action level by 50%

#4 Every person in New Jersey should drink water with nitrate concentrations less than 10 ppm.
Milestones/Objectives
* [public community water systems] Reduce number of nitrate concentrations above the standard by 50% by year 2005
* [private wells] Develop plan to address problem of nitrate concentrations by year 2000

#5 Every person in New Jersey should consume water with mercury concentrations less than 2 ppb.
Milestones/Objectives
* Determine the extent of mercury contamination in New Jersey private wells by the year 2005

#6 The concentrations of VOCs in finished drinking water shall be below the MCLs.
Milestones/Objectives
* [public community water systems] No system will have VOC levels greater than MCLs by 2005
* [private wells] Develop plan to address contamination by VOCs by the year 2005

#7 Every person in New Jersey shall drink water that contains the minimum concentration of disinfection by-products without compromising microbial safety.
Milestones/Objectives [for Community Water Systems only]
* Reduce the running annual average total trihalomethane concentrations to 80 ppb in surface water systems by the year 2000
* Determine concentrations of haloacetic acids in distribution systems

Goals/Subgoals

Goals should be stated so that the goal is capable of being attained. The breakout members asked that the main goal's wording be changed from "will have" to "should have safe drinking water." There was disagreement about using "safe" in a goal: some people thought it means meeting NJ drinking water standards; others thought adding the term obscures a clear message about where the drinking water program is headed. DEP should clarify that the numbers in the subgoals were drinking water standards, also called maximum contaminant levels (MCLs).

Subgoal 1: Drinking water session members recommended defining source water as both groundwater and surface water, since the goal/milestone/indicators seem to cover only groundwater, and integrating the source water goal with those for freshwater watersheds. They also asked whether there is regulatory authority for the activities needed to achieve this goal.

Subgoal 2: Some members asked that the goal be changed from "...is free from disease-causing organisms" to "...meets microbiological standards," ensuring that goals are attainable. DEP suggested that some goals may not be attainable but should be striven for (a view endorsed in a survey).

Subgoal 3: DEP used a lead action level of 15 ppb (for a 1 liter sample in contact with household plumbing overnight) based on current data collection methods for public water systems. The only objection was that exposure to lead in private well water may be greater than in public water supplies, although some members felt including private wells in the goal statement could give consumers a false sense of safety if lead is not measured this way in private wells. Discussion of phosphates and zinc as corrosion control inhibitors raised the question of whether having less lead and copper in water distribution systems is better than having potentially degraded stream water quality as a result of the addition of these inhibitors to drinking water.

A discussion of the lack of comprehensive private well drinking water quality data

produced two recommendations: (a) state legislation, similar to Ocean County's ordinance requiring sampling at the time of real estate transfer, and (b) a new subgoal: "Coupled with a public education outreach effort, a testing program should be initiated for private wells" (there was no discussion on the frequency or scope of this testing). DEP's intention to explore means to gather data on mercury, volatile organic chemicals, and nitrate in private wells to determine the scope of contamination did not fully meet the need. There were no comments on Subgoals 4-7. Stakeholders asked that a subgoal be developed for radiological contaminants.

Objectives/Milestones

In general, objectives and milestones (listed under "Indicators," below) were acceptable except for a question on whether private water systems had been excluded because DEP's position is that the only reliable sources of drinking water are public water systems. DEP said this was not the intent; where appropriate, private well issues were addressed as feasible within resource and regulatory constraints (mercury, volatile organic chemicals and nitrate). Stakeholders felt other mechanisms within DEP (e.g., County Environmental Health Act) could be used to discuss the different ways that public and private wells are treated in New Jersey. Percentages in milestones needed more justification (particularly 50% reduction in lead samples above the action level, which DEP will adjust as needed based on evaluation of data since 1992). Future NEPPS Agreements are expected to have a better basis for the percentages in milestones. A survey response noted that small steps are appropriate for a pilot program, and more dates (i.e., changing objectives to milestones) can be added as more experience is gained and more DEP programs are added to NEPPS.

Indicators

DRINKING WATER GOAL: EVERY PERSON IN NEW JERSEY WILL HAVE SAFE DRINKING WATER

Objective/Milestones	Causes	Conditions and Effects	Responses
A. By 2005, 95% of the public water systems will provide water that meets the microbiological drinking water standards		**1. PERCENT OF PUBLIC WATER SYSTEMS (POPULATIONS) PROVIDING DRINKING WATER THAT MEETS ALL MICROBIOLOGICAL DRINKING WATER STANDARDS THROUGHOUT THE YEAR**	1. Total number of microbiological monitoring and reporting violations at Community Water Systems (CWS) 2. Total number of microbiological Maximum Contaminant Limit (MCL) violations at CWS
B. By 2005, 95% of the public water systems will provide water that meets the New Jersey chemical drinking water standards		**1. PERCENT OF PUBLIC WATER SYSTEMS (POPULATIONS) PROVIDING DRINKING WATER THAT MEETS ALL NJ CHEMICAL DRINKING WATER STANDARDS THROUGHOUT THE YEAR**	1. Total number of chemical monitoring and reporting violations at CWS 2. Total number of chemical MCL violations at CWS
C. By 2000, 90% of public water systems will have compliance evaluations that are acceptable		**1. NUMBER AND PERCENT OF SYSTEMS INSPECTED (POPULATION) THAT HAVE ACCEPTABLE COMPLIANCE EVALUATIONS**	**1. NUMBER OF ENFORCEMENT ACTIONS FOR WATER SYSTEMS THAT HAVE UNSATISFACTORY COMPLIANCE EVALUATIONS** **2. NUMBER OF WATER SYSTEMS THAT VOLUNTARILY RETURNED TO COMPLIANCE** **3. NUMBER (%) OF NON-COMMUNITY SYSTEMS INSPECTED IN THE LAST 4 YEARS**

SUBGOAL 1: ALL SOURCE WATER IN NEW JERSEY USED FOR DRINKING WATER WILL BE PROTECTED FROM POLLUTION

Objectives/ Milestones	Causes	Conditions and Effects	Responses
D. By 2005, 50% of all public water systems will have a fully implemented source water protection plan	1. Number (%) of Well Head Protection Areas (WHPA) with point sources discharges (Lim, F)	1. Number of CWS wells where ground water quality standards are being met (F) 2. Number of CWS intakes where surface water quality standards are being met (F)	**1. NUMBER (%) OF CWS WITH WELL HEAD PROTECTION PROGRAMS/ WATERSHED PROTECTION PLANS** **a. DELINEATIONS** **b. SOURCE INVENTORIES** **c. SOURCE MANAGEMENT PLANS** **2. CONDUCT OUTREACH AND TRAINING ACTIVITIES FOR COUNTIES, MUNICIPALITIES, PURVEYORS AND THE REGULATED COMMUNITY.** **3. DEVELOP GENERIC GUIDANCE AND MANAGEMENT PRACTICES FOR SOURCE MANAGEMENT PLANS.** **4. DETERMINE WHICH SURFACE WATER PURVEYORS MONITOR THEIR SOURCE WATERS, AND THE AVAILABILITY OF THE DATA.** **5. DETERMINE WHICH MONITORING STATIONS USED BY THE AMBIENT MONITORING NETWORKS COULD BE USED TO DETERMINE SURFACE WATER QUALITY FOR DRINKING WATER INTAKES.**

SUBGOAL 2: EVERY PERSON IN NEW JERSEY SHOULD DRINK WATER THAT IS FREE OF DISEASE-CAUSING ORGANISMS

Objectives/ Milestones	Causes	Conditions and Effects	Responses
E. No detectable waterborne disease from the consumption of drinking water	Surface water 1. Number of intakes with more than 10^3 fecal coliform colony forming units/100 ml in more than 10% of their samples. (F) 2. Number of intakes with detectable amounts of human enteric viruses (F) 3. Number of watersheds with intakes susceptible to non-point source (NPS) microbiological loadings from livestock/domestic animals (F) 4. Number of publicly owned treatment works (POTWs) 1 mile/5 miles upstream of potable water intakes (F) 5. Number of upsets at POTWs upstream of potable water intakes **6. NUMBER OF SURFACE WATER TREATMENT PLANTS WITHOUT FILTRATION** Groundwater 7. Number of Tier 1 WHPA in unsewered areas **8. NUMBER OF CWS SUPPLY WELLS UNDER THE INFLUENCE OF SURFACE WATER**	**1. NUMBER OF WATERBORNE DISEASE OUTBREAKS CAUSED BY DRINKING WATER IDENTIFIED BY DEPARTMENT OF HEALTH**	**1. PERCENT OF CWS AND NTNCWS THAT HAVE DISINFECTION.** **2. PERCENT OF SURFACE WATER SYSTEMS BELOW THE MONTHLY MCL FOR TURBIDITY AND PERCENT OF MONTHS TREATMENT PLANTS MEET CHLORINE CONTACT TIME REQUIREMENTS IN A YEAR** **3. NUMBER (%) OF CWS (POPULATION) WITHOUT AN ACUTE (FECAL) MCL VIOLATION IN A YEAR AND NUMBER (%) OF MONTHS WITHOUT AN ACUTE MCL VIOLATION IN A YEAR** **4. PERCENT OF CWS (POPULATION) WITHOUT A MONTHLY TOTAL COLIFORM MCL VIOLATION IN A YEAR AND PERCENT OF MONTHS WITHOUT A MONTHLY TOTAL COLIFORM MCL VIOLATION IN A YEAR** **5. PERCENT OF NONCOMMUNITY WATER SYSTEMS THAT TAKE AT LEAST 2 TOTAL COLIFORM SAMPLES A YEAR**

SUBGOAL 3: EVERY PERSON IN NEW JERSEY SHOULD DRINK WATER WITH LEAD CONCENTRATIONS LESS THAN 15 PPB

Objectives/ Milestones	Causes	Conditions and Effects	Responses
F. In the period from 1992-2000, reduce the number of samples that exceed the lead action level by 50%	**1. NUMBER (%) OF SYSTEMS WITH CORROSIVE WATER** (F) 2. Number (%) of systems with lead service lines (F)	**1. NUMBER (%) OF CWS (POPULATIONS) AND NTNCWS WITH LEAD VIOLATIONS** **2. NUMBER (%) OF SAMPLES WITH LEAD ABOVE 15 PPB**	**1. NUMBER (%) OF SYSTEMS THAT HAVE SAMPLED FOR LEAD** **2. NUMBER (%) OF SYSTEMS WITH LEAD PROBLEMS THAT HAVE (a) SUBMITTED CORROSION CONTROL PLANS (b) INSTALLED CORROSION CONTROL** **3. NUMBER OF SYSTEMS THAT HAVE REPLACED LEAD SERVICE LINES, AND/OR WATER MAINS** **4. NUMBER OF ENFORCEMENT ACTIONS ON SYSTEMS THAT HAVE NOT COMPLIED WITH THE LEAD/COPPER RULE** **5. NUMBER OF SYSTEMS REQUIRED TO CONDUCT PUBLIC EDUCATION THAT HAVE COMPLIED** 6. EPA Region 2 will conduct a study of the effectiveness of the public education programs in the region

SUBGOAL 4: EVERY PERSON IN NEW JERSEY SHOULD DRINK WATER WITH NITRATE CONCENTRATIONS LESS THAN 10 PPM

Objectives/Milestones	Causes	Conditions and Effects	Responses
(for CWS, NTNCWS, TNCWS) G. Reduce the number of POEs with nitrate concentrations above the MCL in 1993 by 50% by the year 2005	Groundwater **1. NUMBER (%) OF CWS WELLS LOCATED IN SUSCEPTIBLE AQUIFERS** 2. Pounds of fertilizer used on agricultural land, golf courses, lawns (Lim, F) Surface water 3. Number of POTWs upstream of intakes a.Pounds of nitrogenous compounds released from POTWs b. Concentrations of nitrogenous compounds at the intakes (Lim)	**1. NUMBER (%) OF CWS (POPULATION) AND NTNCWS WITH NITRATE CONCENTRATIONS GREATER THAN 10 PPM** **2. NUMBER (%) OF CWS AND NTNCWS POEs WITH NITRATE CONCENTRATIONS GREATER THAN 10 PPM**	**1. NUMBER (%) OF CWS AND NTNCWS THAT HAVE SAMPLED FOR NITRATE** **2. NUMBER OF ENFORCEMENT ACTIONS ON SYSTEMS THAT HAVE NOT SAMPLED FOR NITRATE** **3. NUMBER OF SYSTEMS IMPACTED BY NITRATE:** **a. SYSTEMS THAT HAVE INSTALLED TREATMENT FOR NITRATE** **b. SYSTEMS THAT HAVE SWITCHED SOURCE WATER DUE TO NITRATE** **c. SYSTEMS THAT HAVE CONNECTED TO CWS DUE TO NITRATE**
(for private wells) H. Develop a plan to address the problem of nitrate concentrations in private wells by the year 2005.	1. Number of wells located in susceptible aquifers (Lim) 2. Lbs of fertilizer used on agricultural land, golf courses, lawns (Lim) 3. Number of municipalities with domestic well clusters located in susceptible aquifers (F)	1. The percent of private wells sampled with nitrate concentrations greater than 10 mg/l (Lim)	1. Number of private wells that have installed treatment or have been connected to a public water system (F) 2. Number of counties/ municipalities having ordinances requiring monitoring at time of sale

SUBGOAL 5: EVERY PERSON IN NEW JERSEY SHOULD CONSUME WATER WITH MERCURY CONCENTRATIONS LESS THAN 2 PPB

Objectives/ Milestones	Causes	Conditions and Effects	Responses
I. Determine the extent of mercury contamination in NJ private wells by the year 2005.	1. Mercury pesticides applied in susceptible aquifer (Lim) 2. Mercury released from point source and nonpoint sources (NPS) (Lim)	1. The percent of private wells in susceptible aquifers tested for mercury with concentrations greater than the MCL 2. The percent of private wells in susceptible aquifers tested for mercury with detectable concentrations of mercury	1. Survey of susceptible aquifers to determine geographical extent of mercury contamination 2. Number of water source changes and/or treatment installed due to mercury contamination

SUBGOAL 6: THE CONCENTRATIONS OF VOCS IN FINISHED DRINKING WATER SHALL BE BELOW THE MCLS

Objective/Milestones	Causes	Conditions and Effects	Responses
(CWS and NTNCWS) J. No public water system will have levels of VOCs greater than their MCLs by 2005	1. Number of point source dischargers (POTWs and industrial) upstream of potable water intakes 2. lbs of VOCs discharged by point sources upstream of intakes (F) 3. Number of hazardous waste sites in WHPA (F) 4. Number of hazardous waste sites with confirmed contamination of ground water (Lim, F)	**1. NUMBER (%) OF CWS (POPULATION) AND NTNCWS WITH CONCENTRATIONS OF VOCS GREATER THAN THE MCLS AND WITH DETECTABLE CONCENTRATIONS OF VOCS LESS THAN THE MCLS** **2. NUMBER (%) OF POEs WITH VOCs GREATER THAN THE MCLS AND WITH DETECTABLE CONCENTRATIONS OF VOCS LESS THAN THE MCL**	**1. NUMBER OF:** **a. CWS, NTNCWS THAT HAVE INSTALLED TREATMENT FOR VOCS** **b. CWS, NTNCWS THAT HAVE SWITCHED TO ALTERNATE WATER SOURCES** **c. NUMBER OF WELLS TAKEN OUT OF SERVICE DUE TO VOC CONTAMINATION** **2. NUMBER (%) OF CWS AND NTNCWS THAT HAVE TAKEN AT LEAST ONE VOC SAMPLE IN THE PERIOD FROM 1993-1995** **3. NUMBER OF ENFORCEMENT ACTIONS TAKEN FOR SYSTEMS THAT DID NOT MEET THE NJ STATUTORY ONE YEAR COMPLIANCE PERIOD FOR REMEDIATION**
(for private wells) K. Develop a plan to address the contamination of private wells by VOCs by the year 2005	1. Number of municipalities with domestic well cluster located in susceptible aquifers 2. Number of hazardous waste sites with confirmed contamination of ground water	1. Percent of private wells tested with a. detectable levels of VOCs b. wells with VOCs above the MCL	1. Number of letters issued by the Bureau of Safe Drinking Water for private wells tested for VOCs 2. Number of county/ municipalities with VOC testing requirements for sale of property 3. Number of treatment units installed for VOCs 4. Number of changes of water sources

SUBGOAL 7: EVERY PERSON IN NEW JERSEY SHOULD DRINK WATER THAT CONTAINS THE MINIMUM CONCENTRATION OF DISINFECTION BYPRODUCTS WITHOUT COMPROMISING MICROBIOLOGICAL SAFETY

Objectives/ Milestones	Causes	Conditions and Effects	Responses
(CWS only) L. Reduce the running annual average of total trihalomethane (TTHM) concentrations to 80 ppb in surface water systems by 2000.	1. Number of intakes with total organic carbon (TOC) concentrations greater than 4 mg/l (F)	**1. NUMBER (%) OF SURFACE WATER SYSTEMS (POPULATIONS) WITH TTHM CONCENTRATIONS GREATER THAN 80 PPB**	**1. NUMBER OF SYSTEMS THAT HAVE:** **a. ALTERED DISINFECTION PRACTICES OR OTHER TREATMENT PRACTICES IN RESPONSE TO ELEVATED TTHM CONCENTRATIONS** **b. NUMBER OF SYSTEMS THAT HAVE CONDUCTED PILOT STUDIES IN RESPONSE TO ELEVATED TTHM CONCENTRATIONS**
M. Determine the concentrations of haloacetic acids in CWS distribution systems			1. Evaluate existing data on concentrations of haloacetic acids in the distribution system

Indicators in bold capitals will be reported to EPA in FY96; others are possible future indicators. Unless otherwise labeled (N=data not available; Lim=limited data available; F=feasibility will be explored), data are available with which to report these indicators.

There was general agreement on indicators, with stakeholders feeling risk assessment should affect their selection; DEP explained that risk played a very large role in determining what parameters to focus on, both in the Self-Assessment and in the NEPPS Agreement.

"Compliance evaluation" for the overall goal should be clarified, and the indicator developed more completely. Indicators in the FY96 NEPPS agreement were chosen based on data currently collected under the Safe Drinking Water Act regulations; breakout members said indicators should also be based on future data collection, with limitations on data collected noted as part of the indicator development.

D. Site Remediation & Waste Management

Facilitators: Mary Ann Rosa (EPA), Mary Sue Topper (DEP). Resources: Dennis Santella, Program Support Branch (EPA); Tom Sherman, Bureau of Hazardous Waste Engineering, Dave Sweeney, Bureau of Ground Water Pollution Abatement (DEP).

Draft Key Environmental Issues (for FY97 Self-Assessment)

SITE REMEDIATION	WASTE MANAGEMENT
--releases of contaminants in high enough concentrations (including catastrophic releases) to pose an acute risk to humans and other life --releases of contaminants in concentrations that pose chronic risks to humans and other life --source areas of highly contaminated environmental media (air, water, soil) and chemical waste that provide continuing discharges to the environment --remedial actions that may cause environmental impacts (transfer treated water to different watershed; potable water source changes affecting watershed balance; remedial pumping changing normal groundwater flow; increased impervious surfaces causing lower infiltration and greater runoff; increased waste generated due to removal of contaminated soil and water; modification of wetland and surface water ecosystems	--inadequate, environmentally unsound disposal practices --promotion of improved solid waste management (collection, separation, recovery, disposal) --waste of land for disposal --minimizing hazardous waste generation (process substitution, materials recovery, recycling and reuse, treatment) --proper closure and monitoring of waste disposal facilities

Key issues for stakeholders on site remediation included timing (initiation of the process--letting sites sit too long, particularly in urban areas; duration in the system--especially too much spent upfront in studying the site); location (urban vs. suburban priorities); economics (costs and incentives--such as the incentive to clean up without a responsible party, or lack of sufficient infrastructure); risk (need for flexible standards to address “real” risks, and take future site uses into account); information (communication; education; perspective); legislative and regulatory barriers; prevention; and equity (environmental justice--some felt this would be addressed by a goal of reducing risk to human health). There was some dispute over the role of the community: the social context (including locally desired future land uses) should be taken into account in site remediation, versus government has little or no control over municipal and developer decisions, regulated parties are unwilling to spend lots of money to redevelop a site to community specifications, and every site will involve competing interests within the community.

Issues for waste management included location (where does the waste go?--the “Not in My Back Yard” response); inadequate information and education; monitoring of industry activities; continued research and development on recycling and disposal methods; risk balancing; waste minimization; source reduction; economics; interstate waste flow (Carbone decision); proper disposal practices; and reduced waste production.

There were suggestions that, despite their links, site remediation should have separate goals, objectives, and milestones from waste management; overlapping issues can be sorted out later.

Draft Goals/Subgoals

Primary goals were to protect human health and the environment at acceptable levels using the most cost-effective measures; prevent creation of new sites to remediate (that is, use pollution prevention as the core of a proactive approach, perhaps with joint involvement of the community and industry in facility environmental audits); reduce, reuse, recycle, dispose properly, remediate and redevelop; and return currently unusable land to some socially productive purpose. There was sentiment to put a high priority on redevelopment of urban sites, with community involvement and reduction of institutional barriers.

Draft Objectives/Milestones

[Examples from other agencies, for discussion only]:
--federal, state and private cleanups will significantly increase sites and acres remediated
--by 2000, the number of emergency release incidents with adverse offsite consequences will be reduced by 20% compared to 1995
--by 2005, groundwater monitoring will show more sites improving than degrading in quality
--by 2005, X% of existing Y sites on Known Contaminated Sites List will be cleaned up or have construction completed
--by 2005, X% of sites on the (suspected) Contaminated Sites List will have been assessed for the presence of contaminants
--by 2005, the number of accidental releases of hazardous chemicals potentially harmful to humans, animals and plants will be reduced by X% from 1996 levels
--by 2005, confirmed releases from underground storage tanks will be X% lower than in 1996
--by 2005, the number of cleaned up underground storage tank sites will be X% higher than in 1996

For waste management, concern was expressed for harmonizing the development of standards with those of outside interests (for example, with ISO14000, ASTM), with EPA, DEP, and public participation. Encouraging self- assessments by industry also was thought important.

The means for setting site remediation priorities was not resolved: some felt population density, exposure and cumulative risk (the total risk that a set of adjacent sites pose to nearby residents) should be accounted for, while others did not feel urban areas should be ranked primarily on the basis of risk. Creation of an Office of Brownfield Development in DEP, to share responsibility with responsible parties, was one possibility mentioned, given that redevelopment is not entirely--perhaps not even mostly--an environmental issue. Favoring voluntary cleanup (where private capital is used) over publicly funded cleanup, and studying how feasibility and liability issues can be addressed so as to encourage new cleanup technologies, were favored. A survey response suggested target dates for how many sites are returned to productive use.

Draft Indicators

Site remediation response indicators: dollars spent per unit of risk reduced; time spent to achieve remediation

A need exists for environmental indicators that show there is a risk to the community, since without these one doesn't know what the next step should be. Finding feasible measures for the goal of "reduce the risk" seemed difficult (such as exposure levels versus potential exposure, or potential risk that has already been managed); some felt that actual risk posed by these sites is minimal. The number of sites and acreage to be remediated can provide useful response indicators; density of population near sites can be an indirect measure of risk.

E. Land & Natural Resources

Facilitator: Bruce Herrick (Industrial Ecology Associates). Resources: Harvey Simon, Policy and Program Implementation Branch (EPA); Bob Tudor, Environmental Planning, Ernie Hahn,

Natural and Historic Resources, Rick Kropp, Land Use Regulation (DEP).

Draft Key Environmental Issues (for FY97 Self-Assessment)

--Alteration, loss and creation of coastal and freshwater wetlands
--Ecosystem integrity, biodiversity, and habitat fragmentation and alteration: ecologically unique or threatened places (for example, "last great places");
threatened and endangered species; exotic species; old growth forests; riparian corridors and headwaters; living resources: diversity; population levels, toxics
--Open space/recreation: acquisition/maintenance/operation of existing lands (federal parks and wildlife refuges; federal military installations; state parks
and forests; state wildlife management areas; state natural lands trust properties; private land trust activities); water supply management areas (source water protection lands); prime agriculture lands; old growth forests; beaches and dunes; public access; cultural/historic landmarks and uses
--Hazards (public safety): flood prone areas; coastal high hazard areas; coastal bluffs
--Environmentally damaged lands: redevelopment; protect/preserve "environs"

Generic issues raised by DEP in opening remarks included: what do we as a state do with our lands? who should make these decisions, and how? what needs are raised by, or missing from, current land use laws? Issues raised by stakeholders included: how programs are using available data and whether they have protected land as a result; the speed of land "consumption"; how the economics of various land uses (agriculture, parks, etc.) affect the tax base; incorporating the State Development and Redevelopment Plan into the NEPPS process; considering links between habitat types; being sure that urban areas are not designated as "damaged"; and preserving the physical integrity of all lands. A survey commented that wildlife is "out of control," due primarily to a hunting emphasis, resulting in much stream and pond pollution; federal and state wildlife agencies need to improve management, rather than set a bad example for the private sector, which is expected to comply with rules the government does not follow itself. General comments were that there is a need to define terms (biodiversity, ecosystem integrity, habitat fragmentation, etc.), and examine the links between these concepts.

Draft Goals/Subgoals

--Maintain and restore an assemblage of organisms and their habitat that contribute to the ecological diversity, stability, productivity, and aesthetic appeal of the state.
--To enhance the quality of life for existing and future residents of New Jersey by preserving the open space essential for natural and cultural resource
protection, provision of public recreation opportunities, and maintaining the state's landscape diversity, and developing the facilities required to provide
needed recreation opportunities.
    --identify the state's historic and natural features and coordinate efforts to protect them through acquisition, rehabilitation and other methods
    --preserve, protect and provide public access to water and water resource features through legislative initiative, regulation, planning and public
    participation, and the acquisition and development of public open space
--Protect the health, safety and welfare of the people who reside, work and visit in floodplains and coastal areas.

The group produced an overall goal of maintaining, enhancing, and restoring functioning ecosystems and sustainable economies, adding that there is a need to understand the relationship between these two entities. A survey respondent commented that "the major goal to cut red tape is admirable and should be developed," but also felt that it would be difficult to apply NEPPS to fish and wildlife management.

Draft Objectives/Milestones

--no net loss of high quality wetlands
--identify problem exotic species; develop plans and disseminate information as appropriate to deal with them
--maintain, protect and restore riparian habitat and stream headwater areas
--by X date, X% of damaged lands will be restored to productive reuse.
--by X date, increase by X% above 1995 levels the acreage of ecologically unique, threatened, and/or important habitats, including
old-growth forests, either protected or being managed specifically for their environmental integrity.

Among objectives mentioned for functioning ecosystems were: provide incentives to encourage farmers to maintain farmland acreage; allow no net loss of wetlands, and establish healthy (in quantity and quality) wetland communities; assemble blocks of land in increments of 1200 acres to reduce habitat fragmentation; protect ecosystem integrity of private lands; manage forests to encourage species diversity, and reduce acres lost and fragmentation due to development; protect coastal waters, watersheds, and headwaters; and target damaged areas for restoration.

Objectives for sustainable economies included: using incentives to encourage growth where infrastructure already exists, in consultation with local planning boards and environmental commissions; increase capacity of development and redevelopment lands within areas designated as centers under the State Plan, while protecting the environs; evaluate infrastructure integrity and carrying capacity; and ensure public access to urban recreational and open space land.

Draft Indicators

Indicators proposed for ecosystem functioning included: annual wetland loss; spatial and temporal distribution of human activities; and the number and impact of people on the land. For sustainable economies suggestions were to track what is built, particularly site plan approvals in state planning areas. General suggestions were made to examine existing systems for dealing with land to extract possible indicators, and to be sure that people are part of the indicator system.

Generic NEPPS Comments

This section includes comments and questions by stakeholders--either volunteered or in response to survey questions--that deal with topics cutting across breakout session topics.

Resource Allocation

Several comments addressed monetary issues. DEP noted that NEPPS will not immediately shift resources, but in the long run (coupled with the results of comparative risk analyses) it will. Stakeholders were concerned that there be consultation with them before any reallocation. They felt without such help DEP managers and constituents will "scramble to keep what they have," leaving such interprogram areas as monitoring and assessment without enough money. In addition, there is a need for DEP to check whether its resource allocation proposals contradict local priorities (for example, land use programs for specific watersheds) before it makes decisions. Other issues raised concerned how total quality management issues mesh with NEPPS goals, and the use of human resources in the DEP-EPA implementation partnership; one participant argued that, while NEPPS may result in savings, it is critical for progress (rather than bureaucratic shuffling) that the effort not be understaffed and underfunded, as it appears to be now. Economic costs also need to be a primary issue, in terms of both the costs of the DEP program and the costs to the environment of inaction or failure to meet goals, which will be difficult to do. One commentator felt NEPPS would have a greater impact on improving environmental quality if it set priorities (DEP noted that identification of key issues is the beginning of a priority-setting process), and focused more on areas of greatest risk.

Transition from Current to Future Planning and Regulation, and Relation to Regulated Parties

A majority of survey respondents felt that NEPPS had the potential to significantly improve environmental quality in New Jersey, although several wondered whether it was overly ambitious. Some advice was that DEP should not eliminate existing regulatory structure (DEP notes no such change is planned) until a concrete plan with suitable goals and standards, and participation of regulated parties, is in place. Such continuing participation was emphasized, whether with a "core group" (perhaps one that will continuously monitor NEPPS' success) or simply distributing the workshop report. A couple of people suggested that regulated parties will have an incentive if they see evidence of a reduced regulatory burden because goals can be achieved with market-based approaches, and performance standards and other techniques that allow them to figure out how to comply. A related comment is that NEPPS will have minimal impact as long as it must operate under command-and-control legislation, such as the Clean Air Act (particularly if the two processes are simply parallel, and if the impression is correct that DEP, not EPA, shoulders most of the burden of NEPPS, it could add to the agency's workload without freeing up resources). Negative impacts could include misuse of information, fear of changing the regulatory process, and well-meaning groups attacking NEPPS as environmentally degrading back-sliding; the NEPPS process will need to set realistic goals and be very tactful. As one survey put it: "The approach is a great intellectual exercise which should be run in parallel to existing programs and process. Until NJ has a sound environmental plan that provides real goals and guidelines, policies, etc. to say nothing of resources to establish and measure real improvements or real disasters in real current terms this whole thing is too problematic, too scary (e.g., who are you going to blame when lead levels are still

astronomical and meanwhile who suffers?)." Another survey suggested that indicators that drive reform of delivery systems and free up resources, rather than promote existing interests, are critical to avoid diminishing resources and DEP credibility. The agencies appear to be committed to reform, but DEP-EPA talks will not get it done; they need many more "customer" interactions (including other agencies, such as NJ Department of Transportation) to help define the parameters for that reform. Yet another survey, from a stakeholder who attended the Land and Natural Resources breakout session, suggested that the state take the lead in environmental management while federal officials "provide service to do the job." A more general comment was about the need to plan on a multimedia basis without weakening DEP's expertise in monitoring specific media. There should be better understanding of how industrial activities relate to the indicators, and inclusion of non-point as well as point sources (thereby requiring involving the public, given their impact on transportation, runoff, and other causes).

Extending NEPPS to Local and County Governments

There was some disagreement about how useful this would be in the short run, before it has had a chance to work at the state level and with DEP lacking a county-level administrative structure (and county-level cutbacks occurring as well). But a slight majority of commentators thought there were several benefits to working with lower-level governments, as well as ANJEC and local environmental organizations, and making lower-level decisionmaking easier and more responsive: bringing other political units into the process expands the scales at which indicator data can most appropriately be collected, and can set up a network for public awareness, "buy in" to the process, creation of stewardship attitudes to environmental management, and continuing public education.

NEPPS, the General Public, and Public Communication and Education

Participants had mixed feelings about the public's response to NEPPS. Positive comments were that it should be well received; it will enable citizens to focus on the most important environmental issues and better understand the progress being made. On the more pessimistic side, it was felt that a negative reaction would arise from the common belief that detailed emission enforcement is the only way, or a perception that "The last time they tried to change I put my all into it and nothing came of it. This won't be any different." Alternatively, citizens might see NEPPS "as someone else's issue" without extensive outreach and education concerning pollution sources, lifestyle impacts, and the individual's role in making a difference. Superimposing regulatory functions on good management strategies would make things very difficult, in one opinion. The public needs more environmental performance data for evaluation and action; community-based environmental protection, environmental justice, pollution prevention, and other approaches all require a different level of accountability than the current system (or, in one view, the current version of NEPPS). The outcome will depend on the quality of leadership provided by elected officials, and the quality of public education they are willing to allow and support (such as explaining indicators clearly and repeatedly). For example, one person proposed "proper" presentation and reinforcement of NEPPS by the Governor's office in easily understandable terms, getting support lined up in the NJ legislature and among local health officials and environmental commissions, and continual communications on NEPPS and its accomplishments.

Stakeholders in all five breakout sessions had many comments about the need, and need for improvement in, public communication and education (for example, very limited resources are currently allocated to public outreach). Aside from these overall goals, they mentioned (1)

the need to make relevant information--including "good science"--more accessible; (2) survey public understanding and environmental awareness, in part to track effectiveness of public outreach; (3) the public needs to understand its responsibility for creating and dealing with environmental problems, and empower people to take action to reduce their contribution; (4) the need to alert the public to the change in approach represented by NEPPS; (5) the need for equal empowerment of the public, making them part of the process rather than simply talking about public workshops; and (5) communications should be geared to all levels of public understanding. Some even suggested having separate milestones and objectives for public participation: for example, 100% of public should know about NEPPS and related issues by 1999.

Included in such comments were the need to bring the Agreement down to a fact sheet approach and/or Executive Summary (the executive summary sent to workshop invitees was not mentioned, and may have been overlooked), and phrasing all materials in plain, non-bureaucratic English. Goals should be phrased so as to bring them down to the local level, through such means as GIS.

With respect to these last remarks, DEP had not intended the Self-Assessment document or the Agreement as means to communicate NEPPS or environmental quality to the public. Rather, they were intended for audiences--either within agencies or among stakeholders--who had a professional or avocational interest in environmental management in New Jersey. Other means to communicate with the general public--such as a State of the Environment Report--will be based on information in Self Assessments and Agreements, but designed specifically for that audience.

Cross-Cutting Issues

There was little explicit discussion of cross-cutting issues, but such items as pollution prevention were mentioned as important in several sessions, and there was some concern about how to integrate policies or activities that crossed boundaries (for example, pesticides can have impacts on both air and water quality). One discussion on whether to keep such issues separate or include them within each "resource" area (air, water, etc.) did not lead to a conclusion. More generally, there was a statement that environmental considerations should be included in decision making and planning by institutions other than DEP, and a question as to whether it made more sense to have interactions with communities about local issues occur program by program, or to take a more holistic approach. One survey felt that pollution prevention measures should relate directly to environmental releases, since "non-product impact," recycling and other indirect measures are inappropriate, and adding a risk "factor" to release quantities would help focus attention to "areas of greatest impact." More enforcement outreach, including non-enforceable information inspections (and indicators for these), would reduce the need for penalties.

Future Outreach

Stakeholders were asked about how DEP and EPA should handle future outreach concerning NEPPS in New Jersey. On the issue of **who should be involved**, there was consensus on the need for broad, diverse, and continuing involvement of all interested parties, as well as those who should be interested but may not initially see the value of participation (e.g., municipal officials). Additional groups suggested as outreach targets (several of these were invited to the workshop; some did not attend or reply) included: municipalities (including local planning and zoning boards, and local sewage plant managers) and the League of Municipalities; counties (for example, County Environmental Health Act agencies; planning boards, especially transportation and energy planners); local civic groups (community-based organizations, municipal environmental commissions, environmental groups, active watershed and water research associations); national and statewide civic groups (such as the American Lung Association and the Association of New Jersey Environmental Commissions, both of which attended the Workshop); business groups (trade associations, land developers, American Automobile Association); regional agencies (New Jersey Turnpike Authority, Delaware Valley Regional Planning Commission, South Jersey Transportation Planning Organization); professional groups (Air and Water Management Association, the New Jersey chapter of the American Water Works Association, county extension agents, American Society of Heating, Refrigeration, and Air-Conditioning Engineers, American Society of Mechanical Engineers, and other engineering societies); broadcast and other media; and secondary school teachers. It was also suggested that outreach on a watershed basis be added to statewide outreach. DEP should continue to communicate with everyone on the initial invitation even if they were unable to attend.

Suggestions on **how to involve people** were equally diverse. Face-to-face meetings of various kinds were most advocated: (1) additional workshops (whether of this type or at the local level or for more focused topics); (2) workgroups; (3) an indicators symposium, in which people make a presentation on their proposed indicators; and (4) get on agenda of other groups' meetings. Electronic options included (5) Web pages; (6) state bulletin board system; and (7) bulk e-mail (the Air Quality session collected several e-mail addresses). Written options included (8) NEPPS newsletter; (9) NJ Outdoors articles; and (10) professional associations' newsletters; and (11) follow up questionnaire on stakeholders meeting. Using the Green and Gold Task Force, estuary programs and the ozone action program to reach out to audiences, and community based planning (similar to the watershed management concept) that involves all stakeholders were also suggested. Putting NEPPS data and information in GIS format would be useful. Replication for New Jersey of a British Columbia effort--in which a State of the Environment report was turned into a videotape broadcast on the national Knowledge Network, and into an interactive CD-ROM so that interested people could engage in more detailed examination of indicators--was seen as very useful for explaining the background and philosophy of NEPPS. A media steering committee could prepare information and promote media involvement. Attention must be paid to creating incentives for stakeholders to participate in self-assessment and other NEPPS processes. Finally, one survey felt having a single person as a "focal point" in DEP for NEPPS outreach and information would be effective.

Future NEPPS Schedule

DEP must submit a FY97 Self-Assessment document (including revision of the FY96 Self-Assessments as well as adding discussion of the two new areas) to EPA Region 2 by mid-July, 1996. The two agencies must then produce a FY97 Agreement (including goals, milestones/objectives, and indicators) by October 1, 1996. Current plans for outreach to stakeholders take into account the need for their feedback as well as agency needs to meet these deadlines. There will be further outreach after October.

The primary approach planned for further stakeholder input at this time is to schedule separate meetings between interested stakeholders and particular workgroups--on the topics of drinking water, water quality, air quality, site remediation, solid and hazardous waste, and land and natural resources--rather than hold another all-inclusive workshop. Each of these groups will have a somewhat different agenda, focused on what seem to be the most important topics to discuss with stakeholders before completing an Agreement with EPA Region 2 to cover the period from October 1, 1996 to June 30, 1998. These meetings are open; groups may issue specific invitations to people they particularly wish to contribute to the discussion. Invitations will include this report and the relevant portion of the FY97 Self-Assessment.

In addition, the FY97 Self-Assessment and other NEPPS-relevant documents will be placed on DEP's electronic bulletin board, which allows people to download documents, read about upcoming events and actions, and interact with DEP staff via computer. (To do this, set your modem communications software for Data Bits:8, Parity:N, Stop Bit:1, and dial 609-292-2006; NEPPS information will appear on the Division of Science and Research section of the bulletin board. If you have questions about dialing the bulletin board, call 609-292-4860; if you have questions about obtaining NEPPS information not provided on the board, call 609-984-6071.)

Outreach to the general public will be part of a longer-term communication strategy, including a proposed State of the Environment report.

Drinking Water-August 6

Stakeholder discussion of, and feedback on, the status of this section of NEPPS will be the major agenda item at the **August 6** meeting of the Drinking Water Quality Institute, from 1:30-4:30 PM at the East Brunswick Public Library. Call Sandy Krietzman (609-292-5550) or Judy Louis (609-984-3889) for information about this meeting.

Water Quality-August 6

On **August 6**, 9AM-1PM, a meeting with stakeholders will occur at DEP's Public Hearing Room in its Trenton headquarters. Invitees will include members of the Clean Water Council and other stakeholders in water quality, up to 150 people. The tentative agenda includes (1) a summary of the FY97 Self Assessment (the water quality section of which would be mailed to invitees), (2) discussion of whether the key issues are comprehensive and really "key"; (3) feedback on the freshwater indicators, and suggestions for the marine and ground water indicators to include in the FY97 Agreement, and (4) suggestions for short- and long-term priorities for the future. A moderator with experience in water issues, but not involved in NEPPS work on water quality, will conduct the meeting.

This is expected to be the first of several sessions with stakeholders over the next two years. Another one will be held after the FY97 Agreement is complete, to confirm the key

issues, assist with indicator selection, and assist with implementation of the Agreement. Newsletter articles (e.g., for the NJ Discharger) also will be produced.

Call Karen Schaffer (609-292-9692) or Theresa Fenton (609-292-3859) for information about this meeting.

Air Quality-August 9

A meeting on **August 9**, from 9AM-1PM in the DEP's Public Hearing Room, will include members of the Clean Air Council and other interested parties in discussion of specific goals and indicators, both those used and proposed in the FY96 Agreement and others that stakeholders suggest as complements or substitutes. Call Joann Held (609-633-1113) or Charlie Pietarinen (609-633-7648) for information about this meeting.

Site Remediation-August 14

This group will meet **August 14**, 9AM-12:30PM, in DEP's Public Hearing Room. Call Dave Sweeney (609-292-8427) for information about this meeting.

Waste Management-August 21

A discussion of hazardous waste generation and management issues will occur **August 21**, 1-5 PM, in DEP's Public Hearing Room. Call Tom Sherman (609-292-9880) for information about this meeting.

Land and Natural Resources-September 20

Because of the complexity of the issues, and the range of interested stakeholders and programs, this meeting requires more preparation than the others, and is less dependent on the NEPPS deadlines because very few programs are EPA-funded or mandated. Thus their meeting is scheduled for September 20, 1996, 9-12, in DEP's Public Hearing Room. Call Bob Tudor (609-984-0058) for information about this meeting.

For questions about the overall implementation of NEPPS in New Jersey, contact Leslie McGeorge, Division of Science & Research (609-984-6070) or Bryan Ianni, Environmental Regulation (609-292-2795) of DEP, or Dennis Santella of EPA (212-637-3706).

For questions about NEPPS outreach, contact Branden Johnson, Division of Science & Research (609-633-2324).

APPENDIX:

Managing for Environmental Results in NJ: Implementing NEPPS
April 30,1996

PARTICIPANTS

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Nancy Zimmerman	Victoria Foundation